

Product: 2015-2016 Caterpillar One Safe Source Fast Moving Parts Catalog Workshop Manual
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ONE SAFE SOURCE



2015-2016 FAST MOVING PARTS CATALOG

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Product: 2015-1016 Caterpillar One Safe Source Fast Moving Parts Catalog Workshop Manual

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Total Support from One Source and Your Cat® Dealer

Welcome to the newest edition of the One Safe Source catalog. Inside you'll find part numbers, descriptions, specifications and more for thousands of genuine Cat® parts — all manufactured to strict, original equipment specifications.

You can count on these reliable, durable Cat parts to deliver top performance and long life in your applications — and you can count on us to provide the right parts and service solutions, when and where you need them.

We carry most of the parts featured in this catalog for your immediate, off-the-shelf convenience. And thanks to Caterpillar's worldwide distribution system, we can deliver most other parts you need within 24 hours. If you can't find what you're looking for, just ask. Our highly trained experts understand the complete lineup of Cat parts, — original, Classic and Reman — can answer any questions, and make recommendations for your needs.

This catalog contains only high-volume parts. If you are looking for something different, we may have what you need in stock or can order it for you quickly.

Whether you're maintaining one Cat machine or many, you can turn to us for the parts, comprehensive service options and total support that will keep you up and running and maximizing your equipment investments.

Part numbers and specifications are subject to change without notice. To ensure you receive the correct parts, please provide the model and serial numbers of the machines or engines on which they will be used.

Some of the products listed in this catalog are not available in certain parts of the world. Please check with us for more information.

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BATTERIES AND ELECTRICAL PARTS

Cat[®] Battery Specifications

General Information

Premium High Output - Maximum Vibration Resistance

- Vibration Resistance...five times the Industry Standard
- Exclusive “flat top” BCI group 4D & 8D batteries are Maintenance Free and have the industries highest cold cranking amps (CCA)
- Popular BCI group 31 Maintenance Free batterieis with industry leading cold cranking amps...up to 1000 (CCA), for electric power, machine or on-highway truck and bus applications. Deep cycle models are available for truck, marine and recreational usage

Specifications for Cat Premium High Output Batteries-Available Worldwide

BCI Group Size	Part No.	CCA ≈	RC Mins †	Volts	Amp Hr. Capacity @ 20 Hrs.	Construction Notes	Accessibility - Fluid Level Check Hours	BCI Overall Dimensions			Nominal Weight		Nominal Acid to Fill Qt (liter)
								Length In (mm)	Width In (mm)	Height In (mm)	Wet Lb (kg)	Dry Lb(kg)	
8D	153-5720	1500	465	12	210	C/MFA	A - 1000	20.5 (520)	10.8 (275)	9.8 (248)	132 (59.9)	-	-
8D	101-4000	1400	400	12	190	LAC+	A - 1000	20.8 (527)	11.0 (278)	9.8 (248)	132 (59.9)	86 (39.0)	18.0 (17.0)
4D	153-5710	1400	425	12	200	C/MFA	A - 1000	20.5 (520)	8.6 (218)	9.8 (248)	119 (54.0)	-	-
4D	9X-9730	1300	400	12	190	LAC+	A - 1000	20.8 (527)	8.6 (218)	9.8 (248)	120 (54.0)	81 (36.8)	14.8 (14.0)
4D	153-5700	1125	305	12	145	C/MFA	A - 1000	20.5 (520)	8.6 (218)	9.8 (248)	101 (45.8)	-	-
4D	9X-9720	1000	275	12	140	LAC+	A - 1000	20.8 (527)	8.6 (218)	9.8 (248)	102 (45.8)	59 (26.8)	15.9 (15.0)
31	175-4390	1000	180	12	90	C/MFA/S	A - 1000	12.9 (329)	6.8 (172)	9.3 (236)	60 (27.2)	-	-
31	175-4370	825	190	12	100	C/MFA/S**	A - 1000	12.9 (329)	6.8 (172)	9.3 (236)	61 (27.2)	-	-
31	175-4360	710	185	12	100	C/MFA/S***	A - 1000	12.9 (329)	6.8 (172)	9.3 (236)	62 (28.1)	-	-
31/30H	115-2422	1000	170	12	90	C/MFA	A - 1000	12.9 (329)	6.8 (172)	9.5 (241)	63 (28.6)	-	-
31/30H	115-2421	950	170	12	90	C/MFA+	A - 1000	12.9 (329)	6.8 (172)	9.5 (241)	64 (29.1)	44 (20.0)	6.6 (6.2)
31/30H	9X-3404 ⁽¹⁾	950	165	12	95/100	C/MF	NA	13.0 (331)	6.8 (172)	9.5 (241)	58 (26.3)	-	-
31/30H	3T-5760	750	165	12	95/100	C/MF	AV - 1000	13.0 (331)	6.8 (172)	9.5 (241)	56 (25.4)	-	-
65	230-6368	880	140	12	70	C/MF	NA	11.9 (304)	7.5 (191)	7.5 (191)	46 (20.9)	-	-
24	153-5656	650	110	12	52	C/MF	NA	11.0 (279)	6.9 (174)	9.0 (229)	39 (17.7)	-	-

Construction Notes:

Batteries use SAE taper post design and are shipped wet except as:

LAC = Low Maintenance - Hybrid Construction

C = Calcium Lead Alloy Grid Design

MF = Maintenance Free Non-Accessible

MFA = Maintenance Free Accessible

A = Accessible

NA = Non-Accessible

AV = Accessibility Varies - Accessibility varies depending on supplier used. If it has caps, it is accessible and fluid levels should be checked.

S = Stud Terminals

+ = Shipped Dry Only

* = Side Terminals Only

** = Starting and Deep Cycle Battery

*** = Deep Cycle and Starting Battery

≈ = Cold Cranking Amps for 30 seconds at 0° F (-18° C)

† = Reserve Capacity Minutes minimum of 25 amp output at 80° F (27° C)

SDT = Dual, Top mounted Terminals - Stud and SAE Post. Marine Deep Cycle/ Starting Battery

Rugged Design-Built Tough-Reliable Starting

- Positive and negative plates are anchored to container bottom and locked at the top of celnelement for maximum vibration resistance.
- Heavy-duty forged terminal post bushings provide maximum strength and resistance to acid seepage.
- Hefty full-frame grids, no sharp edges, optimum acid/paste combination provides better charge acceptance after deep discharge.
- Manifold vented cover with built-in Flame Arrestor...a safety feature that directs corrosive gases away from the battery and hold-downs.
- Thick, robust container resists rugged treatment typical of heavy-duty commercial use. Embossed part number & descriptors for easy serviceability.

¹ not available in US

Cat General Service Batteries - Available Worldwide (Except Brazil)

Quality Batteries for a Wide Range of Applications

Ideal for Automotive, Light Truck, Bus, Marine, Industrial, Agricultural, Stationary Power and Recreational Usage.

- Maintenance Free and low maintenance... accessible or sealed
- Deep Cycle and Valve Regulated (VRLA) Gelled or Absorbed Glass Mat (AGM) batteries
- Hefty full frame grids, no sharp edges. Optimum acid/paste combination provides better charge acceptance after deep discharge
- Commercial batteries have Anchor Lock elements for vibration resistance
- Flame Arrestor Safety Vents to direct corrosive gases away from the battery and hold-downs

Wet Batteries

BCI Group Size	Part No.	CCA ≈	RC Mins †	Volts	Amp Hr. Capacity @ 20 Hrs.	Construction Notes	BCI Overall Dimensions			Nominal Weight
							Length In (mm)	Width In (mm)	Height In (mm)	Wet Lb (kg)
Truck/Agricultural/Industrial										
1	8C-3617	640	130	6	100	C/MF	9.0 (229)	6.9 (175)	8.8 (222)	30 (13.6)
2	8C-3629	780	200	6	90	LA	10.4 (264)	6.9 (175)	8.8 (222)	36.5 (16.6)
3EE	8C-3620	400	95	12	54	LA	19.3 (489)	4.3 (108)	9.0 (229)	42 (19.1)
3EH	8C-3632	875	250	6	115	LA	19.3 (489)	4.3 (108)	10.0 (254)	47.5 (21.5)
4	8C-3633	975	250	6	125	C/MF	12.5 (318)	6.9 (175)	9.5 (241)	47 (21.3)
4DLT	8C-3622	850	240	12	100	LA	20.0 (508)	8.1 (206)	8.1 (206)	80 (36.3)
8D	8C-3624	1400	430	12	190	LA	20.8 (527)	11.0 (279)	10.0 (254)	130 (59.0)
24F	3T-5858	675	115	12	55	C/MF	10.8 (273)	6.8 (171)	9.0 (229)	40 (18.1)
27	8C-3601	710	120	12	65	C/MF	12.0 (305)	6.8 (171)	9.0 (229)	45.5 (20.6)
27F	8C-3602	710	120	12	65	C/MF	12.4 (314)	6.8 (171)	9.0 (229)	45.5 (20.6)
31	8C-3628	760	170	12	80	C/MF/S	13.0 (330)	6.8 (171)	9.5 (241)	54.5 (24.7)
31	430-5996	1000	190	12	100	C/MF	13.0 (330)	6.8 (171)	9.5 (241)	58 (26.3)
C11(DIN)	369-9955	270	43	12	30	C	7.36 (187)	5.04 (128)	6.50 (165)	17.86 (8.1)
T4 (DIN)	356-6211	380	66	12	44	C	8.27 (210)	6.89 (175)	6.89 (175)	16.09 (7.3)
Bus - Special Terminal										
8D	250-0473	1400	430	12	190	C/MFA/TB	20.8 (527)	11.0 (279)	10.0 (254)	130 (59.0)
Automotive/Light Truck & SUV										
22F	3T-5859	425	65	12	35	C/MF	9.4 (238)	6.8 (171)	8.3 (210)	29.5 (13.4)
24	3T-5857	675	115	12	55	C/MF	10.8 (273)	6.8 (171)	9.0 (229)	40 (18.1)
25	250-0488	625	95	12	45	C/MF	9.8 (248)	6.9 (175)	8.9 (225)	35.5 (16.1)
26	8C-3600	540	80	12	45	C/MF	8.8 (222)	6.8 (171)	8.0 (203)	29.5 (13.4)
26R	369-9958	540	80	12	45	C/MF	8.8 (222)	6.8 (171)	8.0 (203)	29.5 (13.4)
34/78	250-0486	690	110	12	60	C/MF/DT	10.8 (273)	6.8 (171)	8.0 (203) !	36.5 (16.6)
35	250-0487	625	95	12	45	C/MF	9.8 (248)	6.9 (175)	8.9 (225)	35.5 (16.1)
41	8C-3605	650	100	12	64	C/MF	11.6 (293)	6.9 (175)	6.9 (175)	38 (17.2)
42	250-0490	475	70	12	40	C/MF	9.6 (242)	6.9 (175)	6.9 (175)	29 (13.2)
48	430-5993	730	120	12	65	C/MF	11.0 (278)	6.9 (175)	7.5 (190)	42 (19.1)
49	307-0751	900	185	12	100	C/MF	14.0 (354)	6.9 (175)	7.5 (190)	54.5 (24.7)
55/56/62	8C-3611	570	90	12	52	C/MF/DT	8.8 (222)	6.0 (152)	8.50 (216)	32 (14.5)
58	8C-3612	580	85	12	53	C/MF	10.0 (254)	7.3 (184)	7.0 (178)	31.5 (14.3)
65	250-0484	675	130	12	55	C/MF	12.0 (305)	7.4 (187)	7.7 (194)	41 (18.6)
75	7X-6100	690	90	12	60	C/MF *	9.8 (248)	7.0 (178)	7.3 (184)	34.5 (15.6)
75/86	250-0489	540	85	12	47	C/MF/DT	9.8 (248)	7.0 (178)	8.1 (206) !	32 (14.5)
78	369-9957	690	110	12	58	C	10.8 (273)	6.9 (175)	7.3 (184)	36.5 (16.6)

Cat[®] Battery Specifications

Cat General Service Batteries - Available Worldwide (Except Brazil) (Cont'd.)

Wet Batteries (Cont'd.)

BCI Group Size	Part No.	CCA ≈	RC Mins †	Volts	Amp Hr. Capacity @ 20 Hrs.	Construction Notes	BCI Overall Dimensions			Nominal Weight	
							Length In (mm)	Width In (mm)	Height In (mm)	Wet Lb (kg)	
90	430-6000	600	90	12	40	C/MF	9.5 (242)	6.9 (175)	6.9 (175)	32.5 (14.7)	
91	430-6001	700	100	12	50	C/MF	11.0 (278)	6.9 (175)	6.9 (175)	38.5 (17.5)	
92	430-6002	650	130	12	70	C/MF	12.5 (317)	6.9 (175)	6.9 (175)	37 (16.8)	
93	430-6003	800	130	12	80	C/MF	14.0 (354)	6.9 (175)	6.9 (175)	46.5 (21.1)	
94R	430-6005	765	135	12	80	C/MF	12.4 (315)	6.9 (175)	7.5 (190)	47.5 (21.6)	
95R	430-6006	850	190	12	100	C/MF	15.5 (394)	6.9 (175)	7.5 (190)	62.5 (28.4)	
96R	430-6007	600	90	12	40	C/MF	9.6 (242)	6.9 (175)	6.9 (175)	32.5 (14.8)	
97R	430-6008	600	95	12	60	C/MF	9.6 (242)	6.9 (175)	7.5 (190)	37.5 (17.0)	
101	430-6009	650	110	12	-	C/MF/ *	10.3 (260)	7.1 (179)	6.7 (170)	36 (16.3)	
121R	430-6010	540	80	12	50	C/MF	8.3 (210)	7.0 (177)	8.1 (206)	30 (13.6)	
124R	430-6011	670	100	12	60	C/MF	10.3 (260)	6.9 (175)	8.4 (212)	38 (17.2)	
151R	430-6012	335	55	12	-	C/MF	7.24 (184)	5.0 (125)	8.8 (222)	19 (8.6)	
Marine-Deep Cycle Capability											
24M	8C-3638	675	115	12	55	C/MF/DT/~#	10.8 (273)	6.8 (171)	9.4 (238)	40 (18.1)	
24DC	430-5992	500	130	12	75	LA/DT/@	10.8 (273)	6.8 (171)	9.4 (238)	45 (20.4)	
24DP	430-5991	550	120	12	65	LAC/DT	10.8 (273)	6.8 (171)	9.4 (238)	42 (19.1)	
27M	8C-3639	650	150	12	80	@/S/DT#	12.5 (318)	6.8 (171)	9.4 (238)	49 (22.2)	
Lawn & Garden											
U1	8C-3636	230	-	12	25	C/MF	7.8 (197)	5.2 (130)	7.3 (184)	15.5 (7.0)	
Golf Cart/Scissor & High Lifts											
GC-2	8C-3641	1325	-	6	235	@ OP	10.3 (260)	7.2 (181)	10.9 (276)	68 (30.8)	
Dual Terminal Batteries											
34/78	127-0826	850	115	12	66	C/MF/DT	10.8 (273)	6.8 (175)	8.0 (203) !	41 (18.6)	
34/78	250-0486	690	110	12	60	ST/MF/DT	10.8 (273)	6.8 (175)	8.0 (203) !	36.5 (16.6)	
75/86	250-0489	540	85	12	47	C/MF/DT	9.8 (248)	7.0 (178)	8.1 (206) !	32 (14.5)	

Construction Notes:

Batteries use SAE taper post design and are shipped wet except as:

LA = Low Maintenance - Low Antimony Grids
 LAC = Low Maintenance - Hybrid Construction
 C = Calcium Lead Alloy Grid Design
 ST = Silver (AG) Calcium alloy grids- severe service-high temperature
 MF = Maintenance Free Non-Accessible
 MFA = Maintenance Free Accessible
 S = Stud Terminals
 DT = Dual Terminal
 TB = Transit Bus one piece end terminal. Right end of battery. Positive Stud:
 1/2"-13 steel, Negative Stud: 3/8" -16 steel

OP = Offset Post with Horizontal Hole Stainless Steel 5/16" Bolt & Hex Nut
 * = Side Terminals
 ≈ = Cold Cranking Amps for 30 seconds at 0° F (-18° C)
 † = Reserve Capacity Minutes minimum of 25 amp output at 80° F (27° C)
 ! = For height with removable adapter, add 7/8" (22mm)
 @ = Deep Cycle - Antimony Grids
 ~ = Marine Starting
 + = Shipped Dry Only
 § = 75 amps @ 80° F
 # = Wing nut for 8C-3638 & 8C-3639 is part number 3B-0723

Dry Batteries

BCI Group Size	Part No.	CCA ≈	RC Mins †	Volts	Amp Hr. Capacity @ 20 Hrs.	Const. Notes	BCI Overall Dimensions			Nominal Weight		Nominal Acid to Fill Qt (liter)
							Length In (mm)	Width In (mm)	Height in (mm)	Wet Lb (kg)	Dry Lb (kg)	
Marine / Recreational												
8V	8C-3640	980	350	8	175	LA +	20.8 (527)	7.3 (184)	10.7 (270)	90.5 (41.1)	59.5 (27.0)	12 (10.9)

Cat General Service Batteries - Available Worldwide (Except Brazil) (Cont'd.)

Construction Notes:

Batteries use SAE taper post design and are shipped wet except as:

LA = Low Maintenance - Low Antimony Grids
 LAC = Low Maintenance - Hybrid Construction
 C = Calcium Lead Alloy Grid Design
 MF = Maintenance Free Non-Accessible
 MFA = Maintenance Free Accessible
 S = Stud Terminals
 DT = Dual Terminal
 TB = Transit Bus one piece end terminal. Right end of battery. Positive Stud:
 1/2"-13 steel, Negative Stud: 3/8" -16 steel
 OP = Offset Post with Horizontal Hole Stainless Steel 5/16" Bolt & Hex Nut

* = Side Terminals
 ≈ = Cold Cranking Amps for 30 seconds at 0° F (-18° C)
 † = Reserve Capacity Minutes minimum of 25 amp output at 80° F (27° C)
 ! = For height with removable adapter, add 7/8" (22mm)
 @ = Deep Cycle - Antimony Grids
 ~ = Marine Starting
 + = Shipped Dry Only
 § = Rating to 5.25 volts at 75 amps @ 80° F
 # = Wing nut for 8C-3638 & 8C-3639 is part number 3B-0723

Valve Regulated Lead Acid (VRLA) Batteries

BCI Group Size	Part No.	CCA ≈	RC Mins †	Volts	Amp Hr. Capacity @ 20 Hrs.	Construction Notes	BCI Overall Dimensions			Nominal Weight Wet Lb (kg)
							Length In (mm)	Width In (mm)	Height In (mm)	
Gelled (GEL) Electrolyte, Marine/Recreational, Deep Cycle Capability										
4D	152-8006	970	375	12	183	MF-G/VRLA	20.8 (527)	8.5 (216)	10.0 (254)	127 (57.6)
8D	152-7242	1150	475	12	225	MF-G/VRLA	20.8 (527)	11.0 (279)	10.0 (254)	157 (71.2)

Construction Notes:

MF-G/VRLA = Maintenance Free Non-Accessible -Gel Battery. Valve-Regulated Lead Acid (VRLA) battery with gelled electrolyte
 ≈ = Cold Cranking Amps for 30 seconds at 0° F (-18° C)
 † = Reserve Capacity Minutes minimum of 25 amp output at 80° F (27° C)

Absorbed Glass Mat (AGM) Batteries

BCI Group Size	Part No.	CCA ≈	RC Mins †	Volts	Amp Hr. Capacity @ 20 Hrs.	Construction Notes	BCI Overall Dimensions			Nominal Weight Wet Lb (kg)
							Length In (mm)	Width In (mm)	Height In (mm)	
Truck/Agricultural/Industrial										
31	430-5994	800	200	12	105	MF-AGM/VRLA/S	13.0 (330)	6.8 (171)	9.5 (241)	69 (31.3)
31	430-5995	925	190	12	100	MF-AGM/VRLA/S	13.0 (330)	6.8 (171)	9.5 (241)	63 (28.6)
Automotive/Light Truck & SUV										
34/78	430-5997	775	120	12	55	MF-AGM/VRLA/DT	10.8 (273)	6.9 (175)	8.0 (203)	42.5 (19.3)
34M	430-5999	775	120	12	55	MF-AGM/VRLA/DT	10.8 (273)	6.9 (175)	8.0 (203)	41.5 (18.9)
65	430-5998	775	150	12	75	MF-AGM/VRLA	12.0 (305)	7.4 (187)	7.7 (194)	46 (20.9)
94R	430-6004	800	140	12	80	MF-AGM/VRLA	12.4 (315)	6.9 (175)	7.5 (190)	51.5 (23.4)

Cat[®] Battery Specifications

Absorbed Glass Mat (AGM) Batteries (Cont'd.)

BCI Group Size	Part No.	A	B	Volts	Const. Notes	TERM.	BCI Overall Dimensions				Nominal Weight Wet Lb (kg)	
							Length In (mm)	Width In (mm)	Terminal Height In (mm)	Container Height In (mm)		
High-rate Uninterruptible Power Supplies (UPS) or Standby Applications												
4D	250-0483	624	318	12	MF-AGM/VRLA	TA/2/ρ	21.8 (552)	8.3 (210)	9.4 (237)	8.8 (222)	130 (59.0)	
24	250-0476	253	127	12	MF-AGM/VRLA	TA/1/ρ	10.2 (259)	6.8 (173)	9.2 (232)	8.2 (206)	53 (24.0)	
27	250-0477	314	156	12	MF-AGM/VRLA	TA/1/ρ	12.8 (323)	6.8 (173)	8.7 (220)	8.2 (206)	64 (29.0)	
31	250-0478	377	192	12	MF-AGM/VRLA	TA/1/ρ	13.0 (329)	6.7 (171)	8.8 (222)	8.6 (218)	68.5 (31.1)	
31	250-0479	475	238	12	MF-AGM/VRLA	TA/1/ρ	13.5 (342)	6.8 (172)	11.3 (286)	11.1 (281)	99 (44.9)	
31	369-9959 ⁽²⁾	550	271	12	MF-AGM/VRLA	TA/1/ρ	13.5 (342)	6.8 (172)	11.2 (285)	11.1 (281)	107 (48.5)	
45	250-0475	168	85.4	12	MF-AGM/VRLA	TA/1/ρ	8.9 (225)	5.3 (135)	8.7 (221)	8.2 (207)	40 (18.1)	
U1	250-0474	119	60	12	MF-AGM/VRLA	TA/1/α	7.8 (196)	5.2 (132)	7.2 (182)	6.2 (157)	24 (10.9)	
∞	369-9960 ⁽²⁾	370	187	12	MF-AGM/VRLA	FA/3/ρ	19.5 (494)	4.4 (110)	8.9 (227)	9.1 (231)	80 (36.3)	
∞	369-9961 ⁽²⁾	550	274	12	MF-AGM/VRLA	FA/3/ρ	21.9 (555)	5.0 (127)	11.2 (283)	11.7 (297)	120 (54.4)	
∞	369-9962 ⁽²⁾	750	367	12	MF-AGM/VRLA	FA/3/ρ	24.0 (610)	4.9 (125)	12.3 (311)	12.8 (324)	150 (68.1)	

Construction Notes:

A = Power Watts per Cell for 15 minutes to 1.67 Volts Per Cell @ 77° F (25° C)
 B = Discharge Rating in Amperes for 15 minutes to end voltage of 1.75 V.P.C. @ 77°F (25°C)

MF-AGM/VRLA = Maintenance Free Non-Accessible - Absorbed Glass Mat (AGM) Battery.

∞ = Unique container size. Does not use a standard BCI grouping

≈ = Cold Cranking Amps for 30 seconds at 0° F (-18° C)

† = Reserve Capacity Minutes minimum of 25 amp output at 80° F (27° C)

S = Stud Terminals

DT = Dual Terminal

TA - Top Access

FA - Front Access

α = In line lead terminal with brass female inserts .490" diameter head with a 1/4-20unc x .700 deep thread

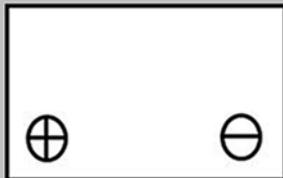
ρ = In line lead terminal with brass female inserts .625" diameter head with a 1/4-20unc x .750 deep thread

AGM batteries have a longer production lead time than regular lead-acid type batteries

Important: Alternator and charger instructions: for 12-volt AGM Batteries charge to 14.4 volts but no more than 14.6 volts at 68° F (20° C)

Valve Regulated AGM Batteries-Terminal Locations

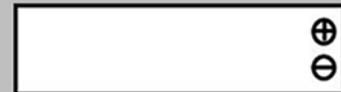
Location Type - 1



Location Type - 2



Location Type - 3



VRLA batteries are a UL Recognized Component and are I.C.C.O., I.M.D.E., I.A.T.A., and D.O.T. Air Transportable Approved

² Available in the United States and South America (Except Brazil).

Cat General Service Batteries - Limited Availability

Europe, Africa, Middle East, Asia

DIN Group Size	Part No.	Amp Hr Capacity @ 20 Hrs	RC Mins †	BCI CCA ≈	DIN CCA ^	EN CCA ±	Volts	Const. Notes	BCI Overall Dimensions			Nominal Weight Wet Lb (kg)
									Length In (mm)	Width In (mm)	Height In (mm)	
78	369-9957	58	110	690	-	-	12	-	10.75 (273)	6.89 (175)	7.24 (184)	36.51 (16.6)
C11	369-9955	30	43	270	150	250	12	C	7.36 (187)	5.04 (128)	6.50 (165)	17.86 (8.1)
T4	369-9956	44	66	400	225	-	12	C	8.27 (210)	6.89 (175)	6.89 (175)	16.09 (7.3)
T4	356-6211	44	66	380	250	350	12	C	8.27 (210)	6.89 (175)	6.89 (175)	16.09 (7.3)
T5	356-6212	55	85	450	290	420	12	C	9.49 (241)	6.89 (175)	6.89 (175)	18.52 (8.4)
T6	356-6213	66	105	550	315	520	12	C	10.94 (278)	6.89 (175)	6.89 (175)	21.83 (9.9)
T7	356-6214	80	133	625	420	570	12	C	12.40 (315)	6.89 (175)	6.89 (175)	26.68 (12.1)
T8	356-6215	88	150	770	420	715	12	C	13.58 (345)	6.89 (175)	6.89 (175)	30.20 (13.7)

Construction Notes:

Batteries have taper post design and are shipped wet except as:

≈ = Cold Cranking Amps at 0° F (-18° C), discharge rate of 30 seconds, meeting 7.2V or above cut-off

^ = Cold Cranking Amps at 0° F (-18° C), discharge rate of 30 seconds, meeting 9V or above cut-off

± = Cold Cranking Amps at 0° F (-18° C), discharge rate of 90 seconds, meeting 6V or above cut-off

† = Reserve Capacity Minutes minimum of 25 amp output at 80° F (27° C)

C = Calcium Lead Alloy Grid Design

Brazil Only

DIN Group Size	Part No.	Amp Hr Capacity @ 20 Hrs	RC Mins †	BCI CCA ≈	DIN CCA ^	EN CCA ±	Volts	Const. Notes	BCI Overall Dimensions			Nominal Weight Wet Lb (kg)
									Length In (mm)	Width In (mm)	Height In (mm)	
4D	102-0400	150	270	950	535	-	12	SC	20.08 (510)	8.39 (213)	9.06 (230)	95.68 (43.4)
4D	242-0824	135	240	750	420	-	12	C	20.08 (510)	8.39 (213)	9.06 (230)	87.74 (39.8)
4D	242-0825	170	330	1000	560	-	12	C	20.08 (510)	8.39 (213)	9.06 (230)	101.85 (46.2)
4D	242-0829	330	170	700	395	-	12	C	20.08 (510)	8.39 (213)	9.06 (230)	101.41 (46)
31	242-0831	165	100	600	335	-	12	C	12.99 (330)	6.77 (172)	9.41 (239)	60.19 (27.3)
H7	242-0828	170	90	725	380	-	12	C	12.32 (313)	6.89 (175)	6.89 (175)	51.93 (23.1)
T5	242-0827	55	90	425	250	-	12	C	9.53 (242)	6.89 (175)	6.89 (175)	30.64 (13.9)
T5	242-0826	55	90	425	250	-	12	C	9.53 (242)	6.89 (175)	6.89 (175)	30.64 (13.9)
T6	112-9564	65	110	620	345	-	12	SC	10.94 (278)	6.89 (175)	6.89 (175)	39.24 (17.8)

Construction Notes:

Batteries have taper post design and are shipped wet except as:

≈ = Cold Cranking Amps for 30 seconds at 0° F (-18° C)

^ = Cold Cranking Amps at 0° F (-18° C), discharge rate of 30 seconds, meeting 9V or above cut-off

† = Reserve Capacity Minutes minimum of 25 amp output at 80° F (27° C)

C = Calcium Lead Alloy Grid Design

SC = Silver (Ag) Calcium Alloy Grids for resistance to high under hood temperatures.

Terminals:

- Lead terminal. L Shaped. Terminals have square holes.
 - Lead terminal and brass inserts. 1/4 - 20 x .25 Deep Female Thread.
 - Lead terminal with brass inserts. 1/4 - 20 x .25 Deep Female Thread
 - Lead terminal with brass inserts. 1/4 - 20 x Female Thread.
- Ratings conform to IEEE-485 Standards.



1 - BCI Group U1



2 - BCI Groups 45, 24, 27



3 - BCI Group 31



4 - BCI Group 4D

Cat[®] Battery Specifications

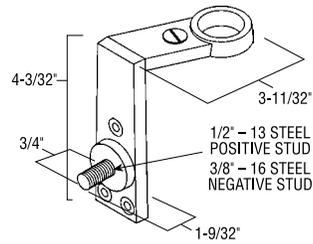
Cat General Service Batteries - Limited Availability (Cont'd.)

Terminal layout for 250-0473 8D Transit Bus Battery ⁽³⁾

One piece end terminal. Right end of Battery.

1/2" - 13 Steel Positive Stud

3/8" - 16 Steel Negative Stud



Battery Accessories:

- Group 31 – Charging Posts for Stud Terminals - Part # 4C-5637
- Screw-in Charging Posts for Side Terminals - Part # 4C-5638
- Wing Nut for Part # 175-4390/175-4370/175-4360/8C-3628 - Part #2B-9498
- Wing Nut for Part #8C-3638 & 8C-3639 Marine Batteries - Part #3B-0723
- Battery Voltmeter - Part # 4C-6600
- Battery Load Tester - Part # 4C-4911
- Booster Cable 12' (3.66 m) - Part # 4C-4933
- Booster Cable 20' (6.00 m) - Part # 4C-4937

NOTE

Ratings and Part Numbers are subject to change without notice.

³ Terminal strip not available for sale.

Assembly Numbers Cell and Terminal Layouts

6-VOLT ASSEMBLIES – TERMINAL POSITIONS & CELL LAYOUTS

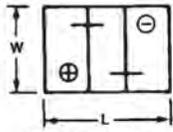


FIG. 1 (2L, 2N)

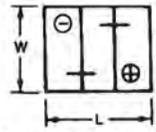


FIG. 2 (1, 2, 3, 3D, 4, 5D, 7D, 9D, 19L, GC2, GC2H)

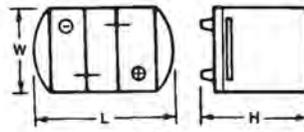


FIG. 2B (17HF)

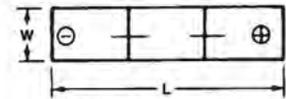


FIG. 5 (2E, 3EH, 4EH)

12-VOLT ASSEMBLIES – TERMINAL POSITIONS & CELL LAYOUTS

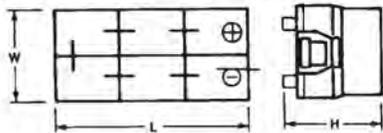


FIG. 8 (4B³, 4D, 6D, 8D³)

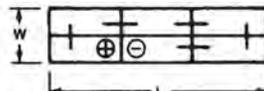


FIG. 9 (3EE, 3ET)

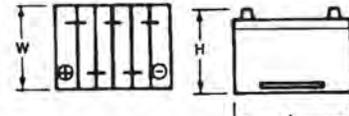


FIG. 10 (12T, 20H, 21, 24, 24H, 24T, 25, 26, 27, 27H, 29H, 30H, 34, 50, 51, 52, 86, U1⁴, U2⁴)

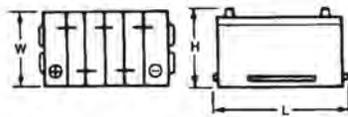


FIG. 10F (16TF, 45, 46)

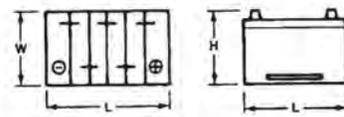


FIG. 11 (21R, 22NL¹, 22R, 24/24F, 24R, 26R, 27R, 29HR, 30HR, 32N, 34R, 35, 51R, 85, LM, U1R⁴)

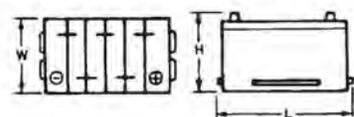


FIG. 11F (22F, 22HF, 22NF, 24F, 27F, 27HF, 29NF, 33)

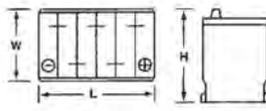


FIG. 11H (121R, 124R)

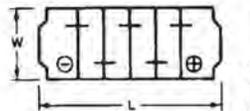


FIG. 11L (17TF, 23)

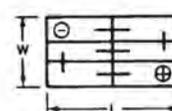


FIG. 12 (60)

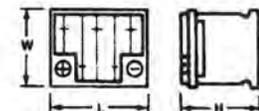


FIG. 13 (66)



FIG. 14 (53)

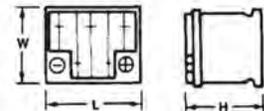


FIG. 15 (39, 40R, 41, 42, 43, 44, 96R, 97R, 98R)

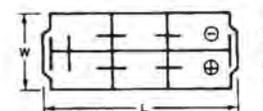


FIG. 16L (4DLT)

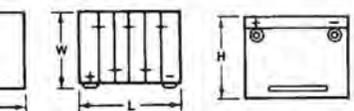


FIG. 17 (70, 71, 72, 73, 74, 75, 76, 77, 78, 101)

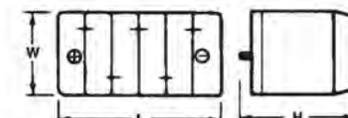


FIG. 18 (28, 31²)

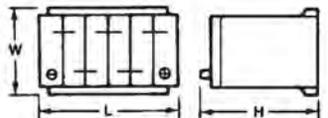


FIG. 19 (36R, 54, 55, 56, 58R)

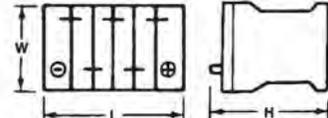


FIG. 20 (61, 62, 63, 64)

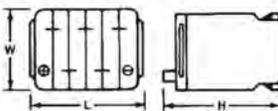


FIG. 21 (59, 65)

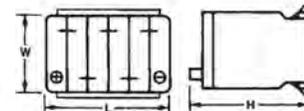


FIG. 22 (57)

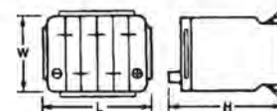


FIG. 23 (58R)

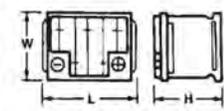


FIG. 24 (47, 48, 49, 90, 91, 92, 93, 94R, 95R, 99R)

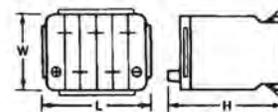


FIG. 25 (58)

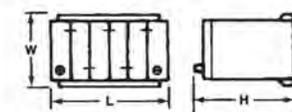


FIG. 26 (58)

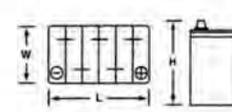


FIG. 28 (151R)

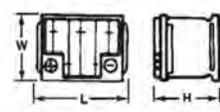


FIG. 34 (99)

Footnotes for Cell Layout Section

¹ Pencil posts supplied as O.E.

² SAE or 3/8" stud posts.

³ SAE or special "bus" side terminals

⁴ Special lawn mower "L" terminals.

* Source: Battery Council Int'l



FIG. 35 (79, 100)

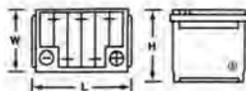


FIG. 39 (67R)

Cat[®] Battery Specifications

BCI Group Sizes and Overall Dimensions

BCI GRP. NO.	BCI FIG. NO.	Volts	Maximum Overall Dimensions Inches and (mm)		
			L	W	H
1	2	6	9 1/8 (232)	7 1/8 (181)	9 3/8 (238)
2	2	6	10 3/8 (264)	7 1/8 (181)	9 3/8 (238)
2E	5	6	19 3/8 (492)	4 1/8 (105)	9 1/8 (232)
2N	1	6	10 (254)	5 9/16 (141)	8 15/16 (227)
3	2	6	11 3/4 (298)	7 1/8 (181)	9 3/8 (238)
3D	2	6	20 3/8 (518)	8 3/4 (222)	10 (254)
3EE	9	12	19 5/16 (491)	4 3/8 (111)	8 7/8 (225)
3EH	5	6	19 5/16 (491)	4 3/8 (111)	9 13/16 (249)
3ET	9	12	19 5/16 (491)	4 3/8 (111)	9 13/16 (249)
4	2	6	13 1/8 (334)	7 1/8 (181)	9 3/8 (238)
4B	8	12	21 1/4 (540)	11 1/8 (283)	10 7/8 (276)
4D	8	12	20 3/4 (527)	8 3/4 (222)	9 13/16 (249)
4DLT	16L	12	20 (508)	8 3/16 (208)	7 15/16 (202)
4EH	5	6	19 5/16 (491)	5 (127)	9 13/16 (249)
5D	2	6	13 3/4 (349)	7 1/8 (181)	9 3/8 (238)
6D	8	12	20 3/4 (527)	10 (254)	10 1/4 (260)
7D	2	6	16 1/4 (413)	7 1/8 (181)	9 3/8 (238)
8D	8	12	20 3/4 (527)	11 1/8 (283)	9 13/16 (249)
12T	10	12	7 1/16 (179)	6 15/16 (177)	7 15/16 (202)
16TF	10F	12	16 9/16 (421)	7 1/8 (181)	11 1/8 (283)
17HF	2B	6	7 3/8 (187)	6 7/8 (175)	9 (229)
17TF	11L	12	17 1/16 (433)	6 15/16 (177)	7 15/16 (202)
19L	2	6	8 1/2 (216)	7 (178)	7 1/2 (191)
21	10	12	8 3/16 (208)	6 13/16 (173)	8 3/4 (222)
21R	11	12	8 3/16 (208)	6 13/16 (173)	8 3/4 (222)
22F	11F	12	9 1/2 (241)	6 7/8 (175)	8 5/16 (211)
22HF	11F	12	9 1/2 (241)	6 7/8 (175)	9 (229)
22NF	11F	12	9 7/16 (240)	5 1/2 (140)	8 15/16 (227)
22R	11	12	9 (229)	6 7/8 (175)	8 5/16 (211)
24	10	12	10 1/4 (260)	6 13/16 (173)	8 7/8 (225)
24F	11F	12	10 3/4 (273)	6 13/16 (173)	9 (229)
24H	10	12	10 1/4 (260)	6 13/16 (173)	9 3/8 (238)
24R	11	12	10 1/4 (260)	6 13/16 (173)	9 3/8 (238)
24T	10	12	10 1/4 (260)	6 13/16 (173)	9 3/4 (248)
25	10	12	9 1/16 (230)	6 7/8 (175)	8 7/8 (225)
26	10	12	8 3/16 (208)	6 13/16 (173)	7 3/4 (197)
26R	11	12	8 3/16 (208)	6 13/16 (173)	7 3/4 (197)
27	10	12	12 1/16 (306)	6 13/16 (173)	8 7/8 (225)
27F	11F	12	12 1/2 (318)	6 13/16 (173)	8 15/16 (227)
27H	10	12	11 3/4 (298)	6 13/16 (173)	9 1/4 (235)
27R	11	12	12 1/16 (306)	6 13/16 (173)	8 7/8 (225)
28	18	12	10 1/4 (260)	6 13/16 (173)	9 7/16 (240)
29H	10	12	13 1/8 (334)	6 11/16 (170)	9 1/8 (232)
29NF	11F	12	13 (330)	5 1/2 (140)	8 15/16 (227)
30H	10	12	13 1/2 (343)	6 13/16 (173)	9 1/4 (235)
31	18	12	13 (330)	6 13/16 (173)	9 7/18 (240)
33	11F	12	13 5/16 (338)	6 13/16 (173)	9 3/8 (238)
34	10	12	10 1/4 (260)	6 13/16 (173)	7 7/8 (200)
34R	11	12	10 1/4 (260)	6 13/16 (173)	7 7/8 (200)
35	11	12	9 1/16 (230)	6 7/8 (175)	8 7/8 (225)
36R	19	12	10 3/8 (263)	7 3/16 (183)	8 1/8 (206)
39	15	12	8 1/8 (206)	6 7/8 (175)	7 (178)
40R	15	12	10 15/16 (278)	6 7/8 (175)	6 7/8 (175)
41	15	12	11 9/16 (293)	6 7/8 (175)	6 7/8 (175)
42	15	12	9 1/2 (241)	6 7/8 (175)	6 7/8 (175)
43	15	12	13 1/8 (334)	6 7/8 (175)	8 1/16 (205)
45	10F	12	9 7/16 (240)	5 1/2 (140)	8 15/16 (227)
46	40F	12	10 3/4 (273)	6 13/16 (173)	9 (229)
47	24	12	9 1/2 (242)	6 7/8 (175)	7 1/2 (190)
48	24	12	10 15/16 (278)	6 7/8 (175)	7 1/2 (190)
49	24	12	13 7/8 (353)	6 7/8 (175)	7 1/2 (190)
50	10	12	13 1/2 (343)	5 (127)	10 (254)
51	10	12	9 3/8 (238)	5 1/16 (129)	8 3/4 (223)
51R	11	12	9 3/8 (238)	5 1/16 (129)	8 3/4 (223)
52	10	12	7 5/16 (186)	5 13/16 (147)	8 1/4 (210)
53	14	12	13 (330)	4 11/16 (119)	8 1/4 (210)
54	19	12	7 5/16 (186)	6 1/16 (154)	8 3/8 (212)
55	19	12	8 9/16 (218)	6 1/16 (154)	8 3/8 (212)
56	19	12	10 (254)	6 1/16 (154)	8 3/8 (212)
57	22	12	8 1/16 (205)	7 3/16 (183)	6 15/16 (177)
58	26	12	10 1/16 (255)	7 3/16 (183)	6 15/16 (177)
58R	19	12	10 1/16 (255)	7 3/16 (183)	6 15/16 (177)
59	21	12	10 1/16 (255)	7 11/16 (195)	7 3/4 (196)
60	12	12	13 1/16 (332)	6 5/16 (160)	8 7/8 (225)
61	20	12	7 9/16 (192)	6 3/8 (162)	8 7/8 (225)
62	20	12	8 7/8 (225)	6 3/8 (162)	8 7/8 (225)
63	20	12	10 3/16 (258)	6 3/8 (162)	8 7/8 (225)
64	20	12	11 5/8 (296)	6 3/8 (162)	8 7/8 (225)
65	21	12	12 1/16 (306)	7 9/16 (192)	7 9/16 (192)
66	13	12	12 1/16 (306)	7 9/16 (192)	7 5/8 (194)
67R	39	12	9 1/8 (231)	6 15/16 (175)	6 15/16 (175)
70	17	12	8 3/16 (208)	7 1/16 (180)	7 11/16 (196) ⁽⁴⁾
71	17	12	8 3/16 (208)	7 1/16 (179)	8 1/2 (216)
72	17	12	9 1/16 (230)	7 1/16 (179)	8 1/4 (210)
73	17	12	9 1/16 (230)	7 1/16 (179)	8 1/2 (216)
74	17	12	10 1/4 (260)	7 1/4 (184)	8 3/4 (222)

4 Maximum height dimensions shown includes batteries with raised quarter cover design. Flat-top design model height (minus quarter covers) reduced approximately 3/8 inch (10 mm).

BCI Group Sizes and Overall Dimensions (Cont'd.)

BCI GRP. NO.	BCI FIG. NO.	Volts	Maximum Overall Dimensions Inches and (mm)			BCI GRP. NO.	BCI FIG. NO.	Volts	Maximum Overall Dimensions Inches and (mm)		
			L	W	H				L	W	H
75	17	12	9 1/16 (230)	7 1/16 (180)	7 11/16 (196) ⁽⁵⁾	97R	15	12	9 15/18 (252)	6 7/8 (175)	7 1/2 (190)
76	17	12	13 1/8 (334)	7 1/16 (180)	8 1/2 (216) ⁽⁵⁾	98R	15	12	11 1/8 (283)	6 7/8 (175)	7 1/2 (190)
78	17	12	10 1/4 (260)	7 1/16 (180)	7 11/16 (196) ⁽⁵⁾	99R	24	12	8 5/16 (210)	6 7/8 (175)	6 7/8 (175)
79	35	12	12 1/16 (307)	7 1/16 (180)	7 3/8 (188)	100	35	12	10 1/4 (260)	7 1/16 (179)	7 3/8 (188)
85	11	12	9 1/16 (230)	6 13/16 (173)	8 (203)	101	17	12	10 1/4 (260)	7 1/16 (179)	6 11/16 (170)
86	10	12	9 1/16 (230)	6 13/16 (173)	8 (203)	121R	11H	12	8 1/4 (222)	7 (178)	8 1/2 (216)
90	24	12	9 1/2 (242)	6 7/8 (175)	6 7/8 (175)	124R	11H	12	10 3/4 (274)	7 (178)	8 5/8 (194)
91	24	12	10 15/18 (278)	6 7/8 (175)	6 7/8 (175)	151R	28	12	7 7/16 (188)	4 15/16 (125)	8 7/8 (225)
92	24	12	12 3/8 (315)	6 7/8 (175)	6 7/8 (175)	GC2	2	6	10 3/8 (264)	7 3/16 (183)	10 5/8 (270) ⁽⁶⁾
93	24	12	13 7/8 (353)	6 7/9 (175)	6 7/8 (175)	U1	10	12	7 3/4 (197)	5 3/16 (132)	7 5/16 (186)
94R	24	12	12 3/8 (315)	6 7/8 (175)	7 1/2 (190)	U1R	11	12	7 3/4 (197)	5 3/16 (132)	7 5/16 (186)
95R	24	12	15 1/2 (394)	6 7/8 (175)	7 1/2 (190)	U2	10	12	6 5/16 (160)	5 3/16 (160)	7 1/8 (181)
96R	15	12	9 1/2 (242)	6 13/16 (252)	6 7/8 (175)						

BCI / JIS Reference Chart

BEST FIT ESTIMATE – BCI GROUP SIZE

BCI Group No.	BCI Assembly Figure	Maximum JIS Dimensions (mm)			JIS Reference Size Number Information	
		Length	Width	Height	JIS Type Description	Conventional
21	10	202	173	225	50D20R	N50S
21R	11	202	173	225	50D20L	N50SL
24	10	260	173	225	48D26R, 55D26R, 65D26R, 75D26R, 80D26R	N50, N50Z, NS70
24R	11	260	173	225	48D26L, 55D26L, 65D26L, 75D26L, 80D26L	N50L, N50ZL, NS70L
25	10	232	173	225	55D23R, 65D23R, 70D23L, 75D23R	
27	10	306	173	225	65D31R, 75D31R, 95D23R	N70, N70B, NX120
27R	11	306	173	225	65D31L, 75D31L, 95D31L	N70L, N70ZL, NX120-7L
29H ⁽⁷⁾	10	410	176	234	95E41R, 105E41R, 115E41R, 130E41R, 95E41L, 105E41L, 115E41L, 130E41L	N100
35	11	232	173	225	55D23L, 65D23L, 70D23L, 75D23L	
51 ⁽⁸⁾	10	238	135	227	46B24R, 50B24R, 55B24R, 32C24R	N40, NS60
51R ⁽⁸⁾	11	238	129	227	46B24L, 50B24L, 55B24L, 32C24L	N40L, NS60L
151R	28	188	125	225	44B19L (S)	
4D	8	505 508	182 222	257 257	15F51, ⁽⁹⁾ 145F51, ⁽⁹⁾ 150F51, ⁽⁹⁾ 170F51, ⁽⁹⁾ 14G51, 165G51, 180G51, 195G51	N120, ⁽⁹⁾ NS150, ⁽⁹⁾
8D	8	521	278	270	180H52, 245H52	N200
N/A ⁽⁸⁾	11	194	126	224	S34B20L – Toyota Prius: Remote Venting	
N/A	10	165	124	218	S34B24R – Honda Insight	
N/A	11	248	127	190	46A24L – Mazda Miata: Remote Venting	
N/A	—	167	127	227	28B17L, 34B17L, 28B17R, 34B17R	
N/A	—	187	127	227	34B19L, 34B19R	

- 5 Maximum height dimensions shown includes batteries with raised quarter cover design. Flat-top design model height (minus quarter covers) reduced approximately 3/8 inch (10 mm).
- 6 Height may vary with different terminal types.
- 7 BCI Group 29H is 76 mm shorter in length than JIS designated part.
- 8 OEM post may be small diameter
- 9 BCI designated Group 4D is 38 mm wider than JIS part. 4D will fit most JIS applications.

Cat[®] Battery Specifications

BCI / JIS Reference Chart (Cont'd.)

BEST FIT ESTIMATE – BCI GROUP SIZE (Cont'd.)

BCI Group No.	BCI Assembly Figure	Maximum JIS Dimensions (mm)			JIS Reference Size Number Information	
		Length	Width	Height	JIS Type Description	Conventional
N/A	—	197	129	227	38B20L, 38B20R	
N/A	—	187	127	184	26A19L, 26A19R	
N/A	—	187	127	187	26A19L, 26A19R, 28A19R, 32A19R	
N/A	—	167	127	227	26B17L, 26B17R	
N/A	—	187	127	227	28B19L, 28B19R	
N/A	—	197	129	227	36B20L, 36B20R	

JIS Number Interpretation:

Example – 55D23R

- 55 – Performance
- D – Classification by battery width x container height
- 23 – Approximate battery length in mm when multiplied by 10.
- R – Last letter designated polarity: R = standard (LHF), L= Reversed (RHF)- Left Hand Positive Termination

The information contained in this chart is deemed accurate and appropriate at the time of its publication. It represents our “best fit estimate” of the BCI group size to the JIS dimensional reference size. BCI provides this information as a service to the subscribers of the Data Book. While BCI strives for accuracy, it makes no promises or warranties regarding the accuracy or usefulness of this information and expressly disclaim any liability related to the use or reliability of the information contained in this chart. BCI, its officer, directors, employees, agents and its member affiliates cannot be held liable for the accuracy or use this data.

BCI / DIN / EN Reference Chart

EUROPEAN REFERENCE INFORMATION

BCI Group Number	BCI Assembly Figure	Maximum Dimensions (mm)			Holddown	Lifting Ledge	Positive Terminal Location	DIN Code		EN Codes
		Length	Width	Height						
40R	15	278	175	175	B1	No	Right	T6	LB3	66LB
41	15	293	175	175	B4	No	Right	T65	N/A	54LB
42	15	242	175	175	B4	No	Right	T5	LB2	45LB
47	24	242	175	190	B3	Yes	Right	H5	L2	55L2
48	24	278	175	190	B3	Yes	Right	H6	L3	66L3
49	24	354	175	190	B3	Yes	Right	H8	L5	99L5
90	24	242	175	175	B3	Yes	Right	T5	LB2	45LB
91	24	278	175	175	B3	Yes	Right	T6	LB3	66LB
92	24	315	175	175	B3	Yes	Right	T7	LB4	77LB
93	24	354	175	175	B3	Yes	Right	T8	LB5	88LB
94R	24	315	175	190	B3	Yes	Right	H7	LS	77L4
95R	24	394	175	190	B3	Yes	Right	H9	L6	
97R	15	252	175	190	B4	No	Right	H5	L2	55L2
98R	15	283	175	190	B4	No	Right	H6	L3	66L3
99	34	207	175	175	B1	Yes	Left	T4	LB1	36LB
99R	24	210	175	175	B3	Yes	Right	T4	LB1	36LR
N/A	N/A	175	175	190	B3	Yes	Right	H3	Lo	32L0
N/A	N/A	207	175	190	B3	Yes	Right	H4	L1	45L1

CAUTION

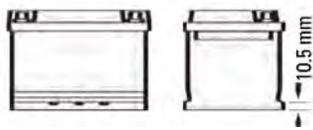
These are common holddown types but others may be used.

Holddown descriptions:

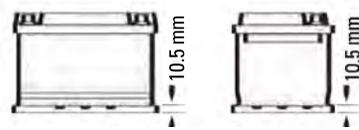
B1 = 10.5 mm high with 3 or 5 notches.

B3 = 10.5 mm high on sides with 3 or 4 notches on sides and 3 notches on side only.

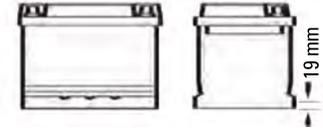
BCI / DIN / EN Reference Chart (Cont'd.)



B1
Base holddown 10.5 mm
(on long sides)



B3
Base holddown 10.5 mm
(on long and short sides)



B4
Base holddown 19 mm
(on long sides)

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Conversion Chart

SAE	EN	IEC	DIN	JIS	SAE	JIS	SAE
155	145	100	90	26A17	225	55D26	348
200	180	130	110	26A19	201	65D26	413
250	230	160	140	28A19	248	75D26	490
300	280	195	170	32A19	294	80D26	582
350	330	225	200	26B17	225	65D31	389
400	360	260	225	28B17	246	75D31	447
450	420	290	255	34B17	279	95D31	622
500	480	325	280	28B19	247	95E41	512
550	520	355	310	34B19	272	105E41	577
600	540	390	335	36B20	274	115E41	651
650	600	420	365	38B20	332	130E41	799
700	640	450	395	46B24	325	115F51	638
750	680	485	420	50B24	390	145F51	780
800	760	515	450	55B24	433	150F51	916
850	790	550	480	32C24	238	170F51	1045
900	860	580	505	50D20	306	145G51	754
950	900	615	535	55D23	356	165G51	933
1000	940	645	560	65D23	420	180G51	1090
1050	1000	680	590	70D23	490	195G51	1146
1100	1040	710	620	75D23	520	190H52	624
1150	1080	745	645	48D26	278	245H52	1532
1200	1150	775	675				
1250	1170	810	700				
1300	1220	840	730				
1350	1270	870	760				
1400	1320	905	790				
1450	1360	935	815				
1500	1410	975	820				
1540	1450	1000	870				

Cat® Battery Specifications

Battery Safety



DANGER
EXPLOSIVE
GASES

Cigarettes, flames or sparks could cause battery to explode. Always shield eyes and face from battery. Do not charge or use booster cables or adjust post connections without proper instruction and training.

KEEP VENT CAPS TIGHT AND LEVEL.

POISON
CAUSES
SEVERE
BURNS

Contains sulfuric acid. Avoid contact with skin, eyes or clothing. In event of accident flush with water and call a physician immediately.

KEEP OUT OF REACH OF CHILDREN.

CALIFORNIA PROPOSITION 65 WARNING

Batteries, battery posts, terminals and related accessories contain lead and lead compounds, and other chemicals known to the state of California to cause cancer and birth defects or other reproductive harm.

Wash hands after handling.

DO NOT INHALE SULFURIC ACID MIST

DANGER OF EXPLODING BATTERIES

Batteries contain sulfuric acid and produce explosive mixtures of hydrogen and oxygen. Because self-discharge action generates hydrogen gas even when the battery is not in operation, make sure batteries are stored and worked on in a well-ventilated area. **ALWAYS wear safety glasses and a face shield** when working on or near batteries.

When working with batteries:

- **Always wear proper eye, face and hand protection.**
- Keep all sparks, flames and cigarettes away from the battery.
- Do not attempt to open a flush cover battery.
- **Never lean over battery** while boosting, testing or charging.
- Cover vent caps with a damp cloth and hand protection to minimize gas seepage.
- Make sure work area is well ventilated.
- **Do not remove or damage vent caps**
- **Do not breathe acid mist.**

SAFE BATTERY INSTALLATION

To assure safe installation and proper operation, follow these installation procedures:

- **Always wear proper eye, face and hand protection.**
- **Disconnect ground cable first** (this is usually the negative cable; however, older vehicles may have a positive ground).
- Remove old battery – note position of positive (+) terminal and negative (–) terminal.
Mark the cables for correct connection to new battery.
- Clean terminals and cable connections with a wire brush.
Broken connections or frayed or cut cables should be replaced.
- Install the new battery in the same position as the old one.
Be sure to secure it with the hold-down assembly.
- Make sure the terminals do not touch any metal mounting, engine or body parts.
- Connect cables tightly. **Connect ground cable last to avoid sparks and explosion.**

Battery Safety (Cont'd.)

SAFE CHARGING

Before beginning the charging operation, read and follow the instructions that come with the charger. **Never attempt to charge a battery without first reviewing the instructions for the charger being used.** In addition to the charger manufacturer's instructions, these general precautions should be followed:

- Always charge batteries in a well-ventilated area and **wear proper eye protection.**
- Turn the charger and timer "OFF" before connecting the leads to the battery **to avoid dangerous sparks.**
- To avoid an explosion, never try to charge a visibly damaged or frozen battery.
- Connect the charger leads to the battery; red positive (+) lead to the positive (+) terminal and black negative (-) lead to the negative (-) terminal. If the battery is still in the vehicle, connect the negative lead to the engine block, away from the battery, to serve as a ground. (If the vehicle is positive grounded, connect the positive lead to the engine block.)
- Make sure that the leads to the connections are tight
- Set the timer, turn the charger on and slowly increase the charging rate until the desired ampere value is reached.
- If the battery becomes hot or if violent gassing or spewing of electrolyte occurs, reduce the charging rate or temporarily halt the charger.
- Always turn the charger "OFF" before removing charger leads from the battery **to avoid dangerous sparks.**

HANDLING BATTERY ACID

Battery acid, or electrolyte, is a solution of sulfuric acid and water that can destroy clothing and burn the skin. Use extreme caution when handling electrolyte and keep an acid neutralizing solution - such as baking soda or household ammonia mixed with water - readily available. When handling batteries:

- **Always wear proper eye, face and hand protection.**
- If the electrolyte is splashed into an eye, immediately force the eye open and flood it with clean, cool water for at least 15 minutes. Get prompt medical attention.
- If electrolyte is taken internally, drink large quantities of water or milk. **DO NOT** induce vomiting. Call a physician immediately.
- Neutralize with baking soda any electrolyte that spills on a vehicle or in the work area. After neutralizing, rinse contaminated area clean with water.

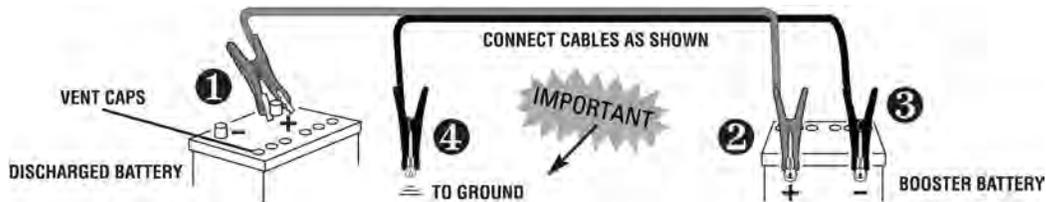
Mixing acid can be very dangerous! Do not attempt without proper training. To prepare electrolyte of a specific gravity, always pour the concentrated acid slowly into the water; **DO NOT pour water into the acid.** Always stir the water while adding small amounts of acid. If noticeable heat develops, allow the solution to cool before continuing to add acid.

SAFE BOOSTER CABLE OPERATION

When jump starting, **always wear proper eye protection and never lean over battery.** Do not jump start a damaged battery, inspect both batteries before connecting booster cable. **Be sure vent caps are tight and level,** place a damp cloth over the vent caps of both batteries. Make certain that the vehicles and cable ends are not touching and both ignition switches are turned to the "OFF" position:

Cat[®] Battery Specifications

Battery Safety (Cont'd.)



Jump Starting Diagram
PROTECT YOUR EYES!
IMPORTANT! Connect to a ground,
away from the battery...away from
moving fan and gas lines.

1. Connect positive (+) booster cable to positive (+) terminal of discharged battery.
2. Connect other end of positive (+) cable to positive (+) terminal of assisting battery.
3. Connect negative (-) cable to negative (-) terminal of assisting battery.
4. **MAKE FINAL CONNECTION OF NEGATIVE (-) CABLE TO ENGINE BLOCK OF STALLED VEHICLE, AWAY FROM BATTERY.**
5. Start vehicle and remove cables in REVERSE order of connections.

Battery Care and Maintenance

Always Wear Eye Protection When Working Around Batteries!

Basic Rules for Battery Care & Maintenance

Safety Precautions



California Proposition 65 Warning: Batteries, battery posts, terminals and related accessories contain lead and lead compounds, and other chemicals known to the state of California to cause cancer, birth defects or other reproductive harm. **Wash hands after handling!**

Warning: Follow all safety instructions when handling batteries! Always wear safety glasses and a face shield when working on or near batteries.

All batteries generate explosive hydrogen gas. Keep sparks, flames and cigarettes away from batteries at all times. Do not connect or disconnect “live” circuits. To avoid creating sparks, always turn charging and testing equipment off before attaching or removing clamps.

ALWAYS DISCONNECT GROUNDED CABLE FIRST AND CONNECT IT LAST TO PREVENT DANGEROUS SPARKS.

Perform all work in a well ventilated area. Never lean directly over a battery while boosting, testing or charging it. **PROTECT YOUR EYES!**

Batteries contain corrosive sulfuric acid that can destroy clothing and burn the skin. Neutralize acid spills with a paste made of baking soda and water or large quantities of water. **BE CAREFUL!**

In-Vehicle Service and Testing

Follow safety precautions:

Wear Proper Eye Protection!

Prior to any testing, visually inspect the battery. Look for:

- Cracked or broken case or cover
- Loose cable connections
- Leaking case-to-cover seal
- Corrosion
- Damaged or leaking terminals

Neutralize any corrosion with a baking soda/water paste or battery cleaner spray. Scrape or brush off the residue and wash the area with clean water. Following your visual inspection, check the battery’s state of charge with a voltmeter.

You must boost charge a weak battery before load testing. (See charging chart under “Charging Tips” section.) If fully charged, perform a load test. **PROTECT YOUR EYES!**

Battery Care and Maintenance

(Cont'd.)

Dry Charge Activation

Important...**WEAR PROPER EYE PROTECTION!**

1. Fill each cell to proper level with battery-grade sulfuric acid of 1.265 specific gravity. Battery and acid must be at a temperature of 60°F to 100°F (16°C to 38°C) at time of filling.
2. Boost charge 12V batteries at 15 amps until specific gravity is 1.250 or higher and the electrolyte temperature is at least 60°F (15.5°C). BOTH CONDITIONS MUST BE MET. (Boost charge 6V and 12V heavy-duty batteries at 30 amps.) If violent gassing or spewing occurs, reduce charge rate.
3. After charging, check electrolyte levels. If required, add additional electrolyte to bring all levels to the bottom of the vent wells. DO NOT OVERFILL. If the battery requires top-off while in service, add distilled water...DO NOT ADD ACID.

Safe Installation

Follow safety precautions:

Wear Proper Eye Protection!

1. Before removing old battery, mark the positive (+) and negative (-) cables for proper connection to the new battery.
2. Always disconnect the ground cable first [usually negative (-)] to avoid any sparking around battery. Then disconnect the positive (+) cable and carefully remove the old battery.
3. Clean and inspect. If necessary, repaint or replace the tray, hold-down and/or battery cables. Cable ends must be clean and corrosion free. Cable must not be frayed or bare.
4. Put corrosion protection washers on battery terminals. Install new battery in same position as old one and tighten hold-down. Be sure terminals will clear hood, fender, box lid, etc. to avoid vehicle damage and/or explosion.
5. Connect positive (+) cable first. Connect ground cable last. If side terminal connection, use a special side terminal torque tool to tighten side terminal cables to avoid damage. Never overtighten or hammer cables onto terminals.
6. Coat terminals and cable connection with a corrosion protection spray.

Check the Charging System

The voltage regulator should be checked every 10,000 miles or every time you change oil. It should be checked immediately if the battery is hot to the touch, if electrolyte is bubbling or spewing from the vents, if your hydrometer reading is below 1.225 or above 1.300, or if the open circuit voltage is below 12.4 volts or above 12.9 volts. Overcharging is evident by excessive water consumption and/or spewing or bubbling of electrolyte out of the vents. Undercharging is evident by slow cranking or lights dimming at idle.

Load Testing

Follow safety precautions:

Wear Proper Eye Protection!

First perform an open circuit voltage test, then an adjustable load test. A load test is the best way to determine if the battery is delivering adequate electrical performance. Make sure your variable load tester is working properly.

1. **You can't load test a discharged battery.** If the voltage is below 12.4, be sure to completely charge it before continuing. Refer to the charging chart under "Charging Tips" section for important information.
2. To avoid sparking and explosive gasses, be sure load tester is OFF and battery is disconnected before hook-up. Use computer memory saver to retain the vehicle's electronic memory while the battery is disconnected.

Battery Care and Maintenance

(Cont'd.)

3. Connect the positive (+) tester clamp to the positive (+) battery terminal. Then connect the negative (-) tester clamp to the negative (-) battery terminal. Always protect your eyes.
4. Set the tester for one-half the battery's 0°F cold crank rating and apply the load for 15 seconds. (If the CCA rating is unknown, use 1/2 of the minimum O.E. battery CCA requirement of the vehicle.)
5. Estimate the internal temperature of the battery to the nearest 10°F. Apply the load for 15 seconds. Note the voltage at 15 seconds with the load on and immediately shut the load off. A reading at least equal to the value from the chart below indicates a good battery.
6. If the battery did not meet the required voltage and if it was not charged in Step 1, completely recharge the battery and repeat the test. If it still fails to meet requirements, replace the battery.

Battery Temperature	12-Volt Battery	6-Volt Battery
70°F (21°C) or above	9.60	4.80
60°F (16°C)	9.50	4.75
50°F (10°C)	9.40	4.70
40°F (4°C)	9.30	4.65
30°F (1°C)	9.10	4.55
20°F (6°C)	8.90	4.45
10°F (12°C)	8.70	4.35
0°F (18°C)	8.50	4.25

Conductance Testing

Follow safety precautions:

Wear Proper Eye Protection!

Conductance uses the battery's response to a very small signal in an attempt to predict the effects of a much larger current. Conductance testing is ineffective on a discharged battery. If the battery is known to be discharged or if the tester tells the operator to charge before testing again, the battery must be completely recharged.

1. It may not be required to turn a conductance tester off or on. If off, you must turn on immediately when connected to a battery. Most will turn off automatically if ignored long enough. Some have no battery of their own and get all their power from the battery being tested.
2. Connect the positive (+) tester clamp to the positive (+) battery terminal. Then connect the negative (-) tester clamp to the negative (-) battery terminal. If the battery has more than one pair of terminals (e.g. top posts and side terminals) always perform the testing on the terminals that are used in the vehicle. Use the proper charging adapters for stud or side terminal batteries. Never connect tester to a bolt or stud.
3. Turn on if needed. Enter the requested information. Be sure to distinguish between a CCA rating and a CA or MCA rating. If no rating is available, use the minimum O.E. battery CCA requirement of the vehicle.
4. If the tester says to replace a battery that was tested in the vehicle, repeat the testing after removing the cables and cleaning the posts.

Check the State of Charge

There are two styles of battery...**non-accessible maintenance-free types and accessible maintainable types with removable vent caps.**

Before adding water to a **maintainable battery**, take an open circuit voltage reading and/or hydrometer reading of one cell. Use a different cell each time. If the readings are below 75%, charge the battery. If the electrolyte level is too low to read with a hydrometer, add water and take the hydrometer reading the following day, after the vehicle

Battery Care and Maintenance

(Cont'd.)

has been driven and the water has had an opportunity to mix. Check electrolyte levels in all cells. If necessary, add only clear, odorless drinking water to bring the liquid level to the level indicator or to 1/2" (13 mm) above the top of the separators. Distilled water is preferred, especially if the water in your area has high iron. **Do not overfill any cells.** Excess electrolyte may be forced from an overfilled cell and cause corrosion on adjacent metal parts, reduce performance, and shorten life. In cold weather, do not fill cells with water and let stand without running engine or driving the vehicle long enough to allow water to mix with acid. Otherwise, freezing might occur and the battery may crack or explode.

Maintenance-free, **non-accessible batteries** are designed to eliminate the need to add water. Yet the volume of electrolyte above plates may eventually become depleted due to abnormal conditions such as high heat or improper regulator setting. Use a voltmeter to check the state of charge. See chart under "CHARGING TIPS" to determine if charging is necessary. **DO NOT OPEN FLUSH COVER BATTERIES! If opened, serious personal injury can result and warranty will be voided.**

Charging Tips

Follow safety precautions:

Wear Proper Eye Protection!

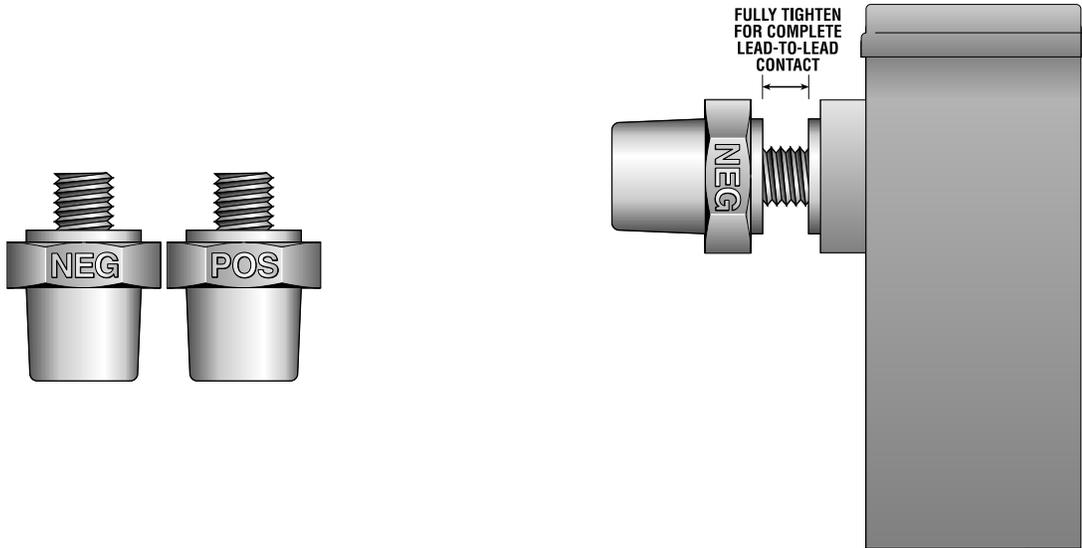
- To avoid a battery explosion, never attempt to charge a frozen battery. Allow it to warm up to room temperature before placing on charge.
- **Warning:** Gel and AGM (Absorbed Glass Mat) batteries require a voltage-limited charger. Charging a Gel or AGM battery on a typical shop charger – even one time– may greatly shorten its life.
- **Important:** Never overcharge batteries. Excessive charging will shorten battery life.
- Prior to charging, read the manufacturer's instructions for proper charger hook-up and use.
- Turn charger off prior to hook-up to avoid dangerous sparks. **PROTECT YOUR EYES!**
- **Warning:** If the electrolyte is accessible, verify that plates are covered before beginning to charge. At the end of charge, add distilled water as needed to bring levels to the proper height. If water is added, charge for an additional 30 minutes to mix. If electrolyte levels are low, but battery is not accessible, remove battery from service.
- The maximum charge rate in amperes should be no more than 1/3 of the battery's reserve capacity minute rating. If the terminal voltage exceeds 16.0 volts while charging, reduce the charge rate.
- Continue charging and reduce the rate as needed until a two-hour period results in no increase in voltage or decrease in current.
- If violent gassing or spewing of electrolyte occurs, or the battery case feels hot to the touch, temporarily reduce or halt charging.

Voltage		State of Charge	Approx. Battery Charging Time ⁽¹⁾ to Full Charge at 80°F / 27°C			
Standard Battery			Maximum Rate At			
6 V	12 V		50 Amps	30 Amps	20 Amps	10 Amps
6.3	12.6	100%	— Full Charge —			
6.2	12.4	75%	20 min.	35 min.	48 min.	90 min.
6.1	12.2	50%	45 min.	75 min.	95 min.	180 min.
6.0	12.0	25%	65 min.	115 min.	145 min.	280 min.
5.9	11.8	0%	85 min.	150 min.	195 min.	370 min.

¹ Charging time depends upon battery capacity, condition, age, temperature and efficiency of charger.

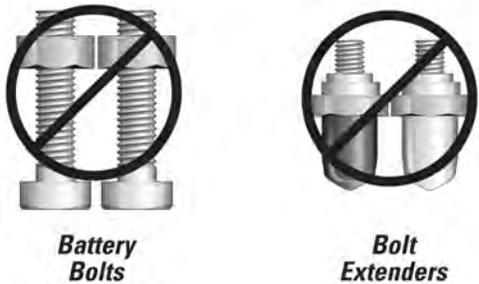
Battery Care and Maintenance

(Cont'd.)



Side Terminal Charging Posts

Side Terminal Charging Posts should be used to ensure the best testing and charging results for side terminal batteries. The charging posts will provide a flush lead-to-lead contact. Be sure to tighten the charging post until it is snug and secure. This will allow a strong current to pass from the charging post to the battery terminal.



DO NOT USE Battery Bolt Extenders or Battery Bolts for testing or charging batteries. They do not provide the necessary lead-to-lead contact, and can reduce your cold cranking amperage (CCA) and state of charge readings. Batteries should be boost charged if the open circuit volt-age (voltmeter) reading is below 12.4 volts. See charging chart below.

Rotate Battery Stock

Use oldest batteries first. Batteries require periodic stock rotation and routine charging. Always rotate stock using the FIFO (First In, First Out) method...NOT FISH (First In, Still Here).

Shipping Date Code	
Month	Year
A – January	2 – 2012
B – February	3 – 2013
C – March	4 – 2014
D – April	5 – 2015
E – May	6 – 2016

Battery Care and Maintenance

(Cont'd.)

Shipping Date Code	
Month	Year
F – June	7 – 2017
G – July	8 – 2018
H – August	9 – 2019
J – September	0 – 2020
K – October	1 – 2021
L – November	2 – 2022
M – December	3 – 2023

Example: L0 – Battery shipped November 2010

Always use oldest batteries first.

REMEMBER...WET OR DRY, ALWAYS ROTATE YOUR STOCK!

Battery Storage Tips

Batteries should be stored in a cool, dry area in an upright position. Never stack batteries directly on top of each other unless they're in cartons. Do not stack more than 3 high (2 high if battery type is heavy commercial).

Test wet batteries every 4–6 months and recharge if necessary. Always test and charge if necessary before installation.

(See "Charging Tips" sections.)

Sell Plenty of Power

Sell cranking amps...Not months of warranty!

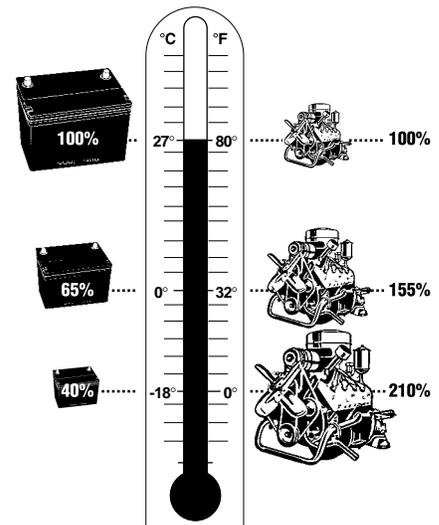
Always sell your customers a battery that has enough cranking power and reserve capacity to get the job done. Consider the vehicle manufacturer's recommended capacity to be a minimum-capacity guideline. A vehicle that has a lot of electrical accessories such as on-board computers, air conditioning, two way radios, etc. will need a more powerful battery for optimum performance.

Along with electrical accessories, temperature also has an effect on battery performance. Vehicles operated in extremely cold climates will need a battery rated well above the O.E. recommendation. Likewise, vehicles operated in hot climates will not need extremely high CCA ratings.

Point these facts out to your customers and sell up to the higher grade levels if necessary.

Remember, you can't sell a battery with too much power in colder climates!

Temperature has a dramatic effect on a battery's ability to crank an engine. Not only does cold rob batteries of power, it also stiffens motor oil making engines harder to start. And heat can damage batteries by causing internal components to wear out quickly while also making engines difficult to start.



Battery Care and Maintenance

(Cont'd.)

Jump Starting

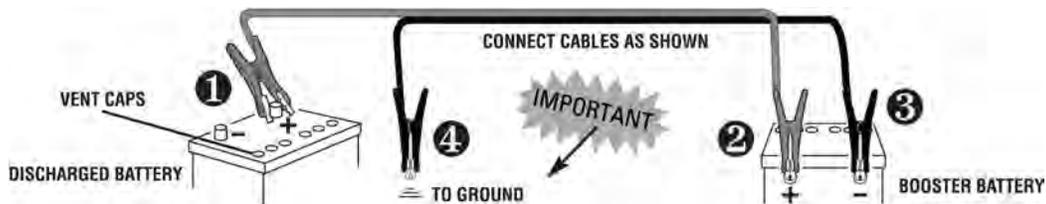
Refer to owner's manual for manufacturer's recommended procedure.

Shield eyes and face at all times...Never lean directly over battery when testing, jump starting or performing other maintenance.

Be sure vent caps are tight and level. Place a damp rag over the vent caps of both batteries. Be sure vehicles do not touch each other.

1. Connect one end of positive (+) booster cable to positive (+) terminal of **discharged battery**, wired to starter or solenoid.
2. Connect other end of positive (+) booster cable to positive (+) terminal of **booster battery**.
3. Connect one end of negative (-) booster cable to negative (-) terminal of **booster battery**, wired to ground.
4. Complete hook-up by connecting other end of negative (-) booster cable to engine block of stalled vehicle — **as far away from battery as possible...AWAY FROM MOVING FAN AND GAS LINES**.
5. Start both vehicles and remove cables in reverse order of connection. Discard the rags.

See diagram below for proper hookup.



Jump Starting Diagram **PROTECT YOUR EYES!**

IMPORTANT! Connect to a ground, away from battery...away from moving fan and gas lines.

** Source: Battery Council International*

Battery Accessories

Note: Ratings and Part Numbers are subject to change without notice

Part Number	Description
295-2618	Pocket Multimeter

Wing Nuts

Part Number	Description	Where Used
2B-9498	Wing Nut	For use with 175-4390, 175-4370, 175-4360, and 8C-3628
3B-0723	Wing Nut	For use with 8C-3638, 8C-3639 and Marine Batteries

177-2330 Digital Battery Analyzer

SMCS Code: 1401-081, 0785

Model: All

Warranty: One Year

- Replaces 127-8078 Battery Analyzer
- Used to quickly and accurately test condition of 6 and 12 volt batteries (even discharged to as low as 4 volt)
- Check for full state charge, condition of battery, and battery voltage in 20 seconds
- Test batteries in machine or vehicle without disconnecting battery cables
- Battery does not have to be fully charged at time of testing
- Saves time and money by allowing dealers to test condition of a battery while customer is present (works great for warranty claims)
- Eliminates need to charge and discharge a battery to test its condition
- Compensates for cold temperatures when testing batteries in extreme conditions
- Power-down feature prolongs battery life in analyzer
- Analyzer has reverse polarity and is protected to 17 volts maximum

References

NEHS0764, Tool Operating Manual, Using the 177-2330 Battery Analyzer

Battery rating range:	
Cold cranking amps (CCA)	50 - 4000
Cranking amps (CA)	65 - 5000
Ampere hours (A h)	6 - 500
DC voltmeter range	1.0 - 14 V
Voltmeter accuracy	±0.1 V
Power source	9 V battery or test battery
Test time	20 seconds
Analyzer cable length	815 mm (32 in)
Overall size	210 x 140 x 38 mm (8.25 x 5.5 x 1.5 in)

Sample of manual. Download All 574 pages at:

<https://www.aresairmanual.com/downloads/2015-1016-caterpillar-one-safe-source-fast-moving-parts-catalog-workshop-manual/>